

Amendments to the Specification:

Page 1, before line 1, insert the following section heading:

TITLE OF THE INVENTION

Please replace the paragraph which appears at page 1, lines 8-10, with the following amended paragraph:

This invention proceeds from problems as they arise in hearing [[air]] aid technology. On the other hand, its proposals for solving them can be generalized, in the sense that they can basically be used for digital communication between units.

Please replace the paragraph which appears at page 1, lines 12-24, with the following amended paragraph:

Hearing aid technology is increasingly moving toward processing signals digitally, especially audio signals, for which a so-called "digital signal processing" unit or DSP is used. Depending on the hearing aid configuration, these DSP are connected to many different, varied and potentially identical peripheral units, thus, for example, one or more acoustic/electric converters, T-coils and controllers, such as potentiometers for adjusting amplification, interface units, etc. In the most general cases, such units are analog units in themselves. But so they can be connected flexibly to the DSP, A/D converters are integrated into such analogous analog peripheral units, as they are used on hearing aids, so that the following will assume that the peripheral units each have outputs for serial digital data. Please refer also to application PCT/CH98/00502 by the same applicant on this, which is enclosed with this application as APPENDIX A and which describes developments in the field of digital hearing aid configuration today. This APPENDIX A should be an integral part of the

application in this sense.

Page 3, line 4, please insert the following section heading:

SUMMARY OF THE INVENTION

Page 4, please delete the paragraph which appears at line 5.

Page 4, please delete the paragraph which appears at lines 12-13.

Please replace the paragraph which appears at page 4, lines 15-19, with the following amended paragraph:

Although in certain cases, the solution to the first or second problem mentioned above may meet the respective need alone, in another much preferred embodiment of the invention, whether it is the process or the digitally communicating system, a combination of the solutions mentioned in the invention to the two problems is proposed, ~~according to the wording of Claim 3 and Claim 20.~~

Please replace the paragraph which appears at page 4, lines 25-29, with the following amended paragraph:

Therefore, in another preferred embodiment, ~~following the wording in Claim 4,~~ the first unit is a digital signal-processing unit of a hearing aid, and the second units are peripheral units of the hearing aid, like especially acoustic/electric converters, electric actuators, or for example T coils, controls, like potentiometers or switches, interface units, etc.

Please replace the paragraph which appears at page 5, lines 1-3, with the following amended paragraph:

In another preferred embodiment of the invention, ~~according to the wording of Claim 5~~, the peripheral units work like acoustic/electric converters, for example and typically, over a preferably built-in A/D converter on the data line.

Please replace the paragraph which appears at page 5, lines 5-8, with the following amended paragraph:

In another preferred embodiment of the invention, ~~according to the wording of Claim 6~~, the random signal is produced by the fact that the A/D converter working on the data output is given a noise signal on the input side, but preferably directly uses the quantization noises of an LSB (lowest significant bit) on the A/D converter output.

Please replace the paragraph which appears at page 5, lines 10-13, with the following amended paragraph:

In terms of the solution to the conflict of which second unit can write when on the data line, ~~according to the wording of Claim 7~~, in one much preferred embodiment, the procedure is that only one of the second units provided can detect the predetermined signal state mentioned at the same time.

Please replace the paragraph which appears at page 5, lines 15-19, with the following amended paragraph:

So when that state is detected on only one of the two units connected, then that it "knows" that, for example, a second unit is also connected. ~~According to the wording of Claim 8, t~~The permission phase determined by the permission signal on the permission line WS for the second unit considered is now inverted, preferably on the second unit detecting that state

first.

Please replace the paragraph which appears at pages 5, lines 27-30 through page 6, lines 1-3, with the following amended paragraph:

In one preferred embodiment, the signal is detected on the data line at each second unit and is logically coupled to the random signal given at this unit prevailing at the same time, ~~according to the wording of Claim 9~~. The random signals of the second unit connected are also preferably placed on the data line via a "wired AND" interconnection - according to Claim 10 - and the presence of two second units is indicated when the state of the data line is '0', but the state of the random signal assigned to it is '1.'

Please replace the paragraph which appears at page 6, lines 5-12, with the following amended paragraph:

Because the first unit does not usually tolerate signals on the data-transmission line that are not defined electrically for an open input, it can be essential that a second unit considered connected also definitively know that there is no second one. This is achieved, ~~according to the wording of Claim 11~~, by the fact that every second unit connected considers itself alone on the second unit connected to the data line after a given span of time has gone by without it having detected the predetermined signal mentioned itself and without a random signal appearing on the data line in phases of the permission signal write-locked for it.

Please replace the paragraph which appears at page 6, lines 14-17, with the following amended paragraph:

In one preferred embodiment—according to the wording in ~~Claim 12~~, on the second unit, which has identified itself as the only one connected to the data line, in phases write-locked for it, a defined electrical potential is now applied to the data line, preferably a potential corresponding to the logic state '0.'

Please replace the paragraph which appears at page 6, lines 25-27, with the following amended paragraph:

Thus, the initialization phase mentioned preferably begins by turning on the electric power to the units mentioned and ends a certain number of SCL cycles later.—~~This is according to the wording of Claim 13.~~

Please replace the paragraph which appears at pages 6, lines 29-30 through page 7, lines 1-4, with the following amended paragraph:

~~According to Claim 14,~~ If more than two second units are connected to a single first unit, then it remains so for all units provided, when a common SCL clock line and a common permission line WS are used, while an additional data line is provided per other pair and/or per other initiated pair of the second unit provided. This keeps it so that only two second units can write to a common data line, on one hand, and the advantages of the three-wire bus connection are also used, on the other.

Please replace the paragraph which appears at page 7, lines 15-19, with the following amended paragraph:

Particularly when more than two second units are connected to one first unit and, as mentioned, only one common permission

line is working on all second units provided, it is necessary, if the first unit, ~~according to Claim 1~~, and the first aspect of this invention, should communicate with the second units over the permission line, that the second units connected can be addressed as receiver stations.

Please replace the paragraph which appears at page 7, lines 21-25, with the following amended paragraph:

For this purpose, ~~according to the wording of Claim 15~~, addresses are produced on at least some of the second units connected by means of random digital signals, and preferably, after the prescribed initialization phase, by means of those random signals that were used in the initialization phase for the identification process, ~~according to the wording of Claim 2~~.

Please replace the paragraph which appears at page 7, lines 27-30, with the following amended paragraph:

~~According to the wording of Claim 16, t~~The random addresses of every second unit are read on the first unit and compared with one another. According to the invention, the first unit—~~(see Claim 1)~~ orders all second units, via the permission line, to generate new random addresses when at least two of the addresses compared are the same.

Please replace the paragraph which appears at page 8, lines 1-4, with the following amended paragraph:

Then, ~~according to the wording of Claim 17~~, data signals from the first unit, and especially command data, are produced only within predetermined sections of phases of the permission signal, which ensures that no conflicts arise between the permission signals given on the permission line and the data

Appl. No. 09/903,453
Amdt. dated Jan. 12, 2005
Reply to Office action of Aug. 12, 2004

signals mentioned.

Please delete the paragraph which appears at page 8, lines 6-7.

Page 8, line 8, please insert the following section heading:

BRIEF DESCRIPTION OF THE DRAWINGS

Please delete the paragraph which appears at page 8, line 9.

Page 8, before line 11, please insert the following new paragraph:

Figure 1 shows a prior art system using a three-line bus.

Page 8, line 28, please insert the following section heading:

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS